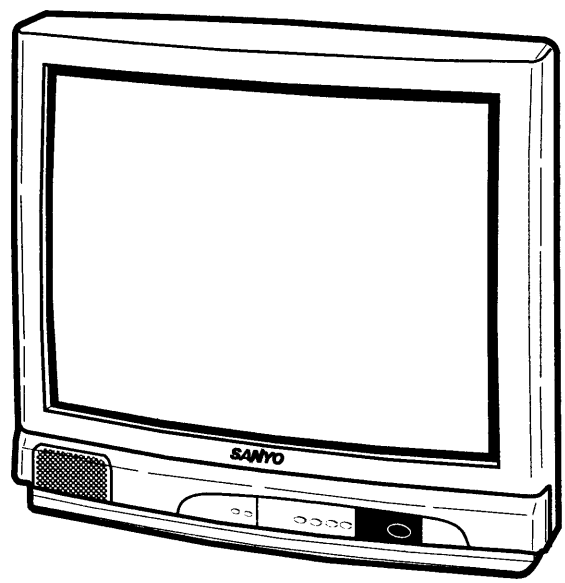
SANYO

Colour Television Service Manual CB5953

Model C25EG95B (U.K)

Service Ref. No. C25EG90B-00
Service Ref. No. C25EG90B-02

PRODUCT CODE
111323700 (C25EG90B)
ORIGINAL VERSION
Chassis No. EC3-A25



Give complete "SERVICE REF. NO." for parts order or servicing, it is shown on the rating sheet on the cabinet back of the TV set.

Note
This TV receiver will not work properly in foreign countries where the television transmission system and power source differ from the design specifications. Refer to the specifications for the design specifications

Specifications

Power source	AC 220~240V 50Hz
Television system	System I
Colour system	PAL
Receiving channel	UHF 21~69
Aerial input impedance	75ohm
AV terminal	
21 Pin socket	CENELEC standard
Sound output	3.0 watts
Picture tube	63cm diagonal, 90 degree
(Visible picture diagonal)	59cm
Dimensions (WxHxD)	584 x 533.5 x 446.6 mm
Weight	24Kg

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Part No. SKSM0107

SAFETY PRECAUTION

1: An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.
2: Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube.
3: When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, isolation resistor-capacitor networks etc.Before returning any television to the customer, the service technician must be sure that it is completely safe to operate without danger of electrical shock.

X-RADIATION PRECAUTION

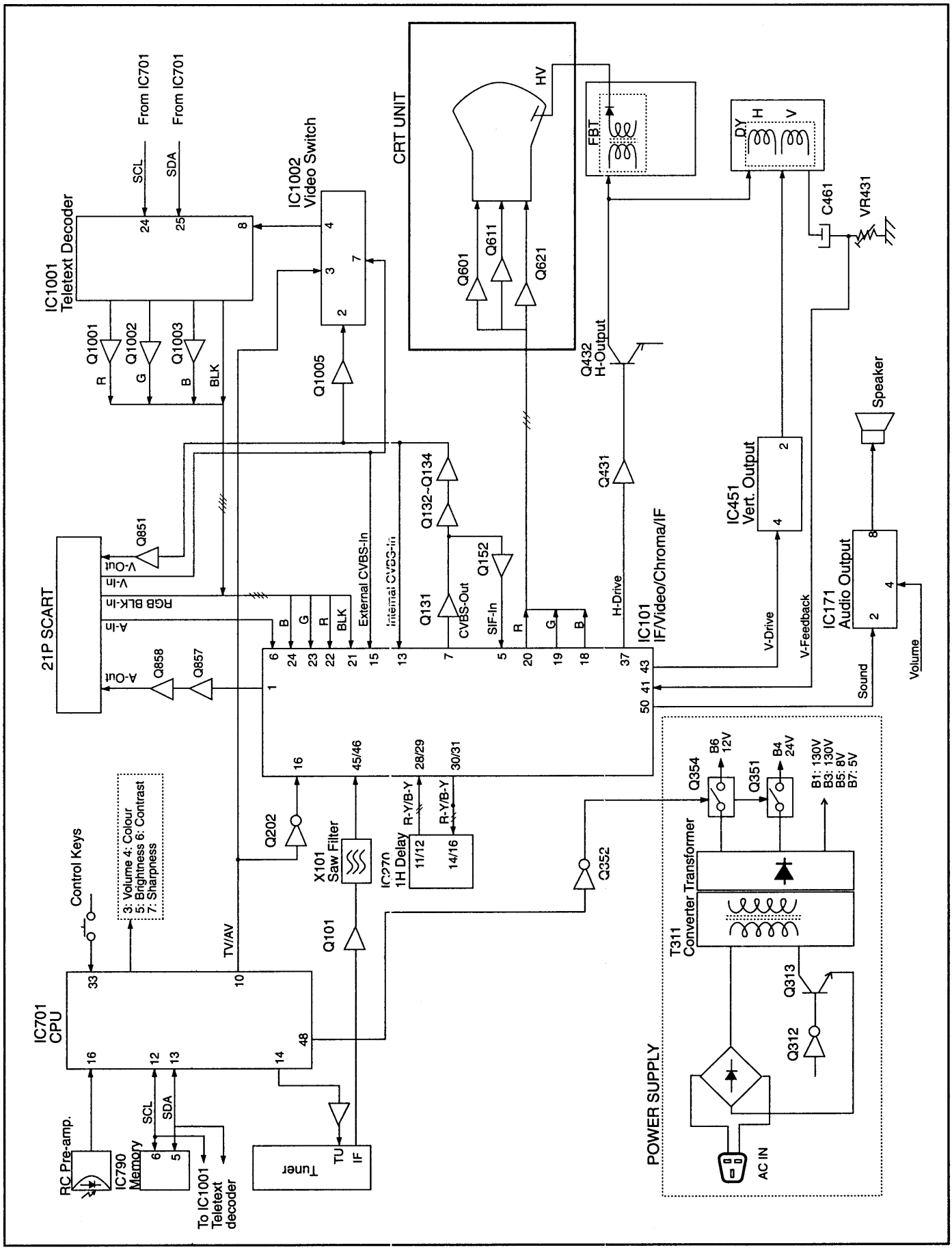
The primary source of X-RADIATION in the television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limit. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage adjustment to maintain the high voltage within the specified limits.

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark /!\ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark /!\ . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark /!\ .

BLOCK DIAGRAM

This is a diagram for all models and therefore differs slightly from the actual block diagram.



CIRCUIT DESCRIPTION

1.POWER SUPPLY

The power supply circuit of the EC3-A chassis is composed of a rectifier smoothing circuit, an oscillation circuit, a control circuit and an output rectifier circuit. The AC input voltage is full-wave rectified by the rectifier smoothing circuit, and an unstable DC voltage is generated at both terminals of the smoothing capacitor C307. This voltage is input to the oscillation circuit. The oscillation circuit is provided with a blocking oscillator circuit that switches the switching transistor Q313 ON and OFF, and an oscillation frequency and a duty square wave pulse are generated in the input windings according to operation of the control circuit. A square-wave pulse whose size is dependent on the turn ratio of the input and output windings is obtained in the output winding. This is rectified in the output rectifier circuit, and the desired DC voltage is obtained.

2.IF & DEFLECTION (TDA8361)

The IF output signal from the tuner passes through the SAW filter, and it is input to pin45 and pin46 of IC101. The signal input to the IC passes through the IF amplifier, video detection and video amplifier circuits and is output from pin7 as a composite video signal. This signal is supplied to the video and chroma amplifier stages through the buffer of Q131.

The sync.-separation circuit separates the video signals applied to pin13(internal video signal) or pin15(external video signal) to vertical- and horizontal-sync. signals respectively. The horizontal oscillator requires no external components and is fully integrated. The oscillator is always running when the start-pin36 is supplied with 8V. Horizontal drive signal is output from pin37. VR401 is for adjustment of the horizontal centring. The separated vertical-sync. signal from sync. separation circuit passes through the vertical-separation circuit, and applied to trigger divider circuit. The horizontal oscillation pulse and input vertical sync. pulse are monitored by the trigger divider circuit, and switching 50Hz and 60Hz system, the vertical amplitude automatically adjusted for 50Hz and 60Hz. The output signal from the trigger divider triggers the oscillation of vertical oscillation circuit consisting of C401, R402 and pin42, and vertical drive pulse is output from pin43. VR451 is for changing the amount of AC feedback applied to pin41 and for adjustment of the vertical amplitude.

3.VIDEO CHROMA & R.G.B. (TDA8361)

The composite video signal output from the pin7 of IC101 passes through Q131 to Q134, and it is supplied to pin13. The external video signal output from SCART is supplied to pin15. The video signal input to pin13 or pin15 is separated to luminance (Y) signal and chroma signal in IC101. These pins are used in common with H/V-sync. separation input. The peaking of Y signal is adjusted by DC voltage of pin14. ("SHARPNESS" control) The chroma signal is divided into R-Y and B-Y chroma signals, demodulated in IC101, and output from pin30 (R-Y) and pin31 (B-Y). These chroma signals pass through the 1H delay line circuit (IC270), and they are input to pin29 (R-Y) and pin28 (B-Y). These R-Y/B-Y signals pass through RGB matrix circuit and RGB selector circuit of IC101. The internal RGB signals are generated in RGB matrix circuit and the RGB selector, consisting linear amplifiers, clamps and selects either the internal RGB signals or the external RGB signals input from pin22(R), pin23(G), pin24(B). Selection is controlled by the voltage at the RGB switch control (pin21) and mixed RGB modes are possible since RGB switching is fast. The RGB switch also functions as a fast blanking pin by blanking the RGB output stages; here internal and external RGB signals are overruled. The colour gain is controlled by DC voltage of pin26. ("COLOUR" control) The contrast control voltage at pin25, and the brightness control voltage at pin17 control DC level of RGB signals. The RGB signals are finally buffered before being available at the RGB output pins [pin20 (R), pin19 (G), pin18 (R)].

4.AUDIO OUTPUT(AN5265)

The audio signal output from pin50 of IC101 is input to pin2 of IC171 and passes through the pre-amplifier circuit and drive circuit, after which it is input to the audio amplifier. The audio amplifier is an SEPP (single-ended, push-pull) OTL type and output to pin8 to directly drive the speaker.

5.VERTICAL OUTPUT (LA7832)

An IC (LA7832) is used for the vertical output circuit in this chassis. The vertical drive pulse from pin43 of IC101 is input to pin4 of IC451. This pulse drives IC451, and vertical scanning is performed. In the first half of scanning a deflecting current is output from pin2 and passes through the following path:

Vcc(B4) → D451 → pin3 → pin2 → DY → C461 → VR431/R459. An electric charge is then stored in C461. In the last half of scanning the current path is C461 → DY → pin2 → pin1 → VR431/R459 → C461. In this way, an amplifying sawtooth waveform current flows directly to DY to perform electron beam defection. Next, in the first half of the banking period the vertical drive pulse suddenly becomes OFF, and in order to reduce the current flowing to DY, the current path becomes as follows by the inductance of DY:

DY → pin2 → pin1 → VR431/R459 → C461 → DY. Also, when the charge of DY has dissipated, the current path becomes Vcc24V → pin6 → pin7 → C452 → pin3 → pin2→ DY → C461 → VR431/R459, and when the prescribed current value is reached, the vertical drive pulse becomes ON. This completes one cycle.

6.HORIZONTAL OUTPUT

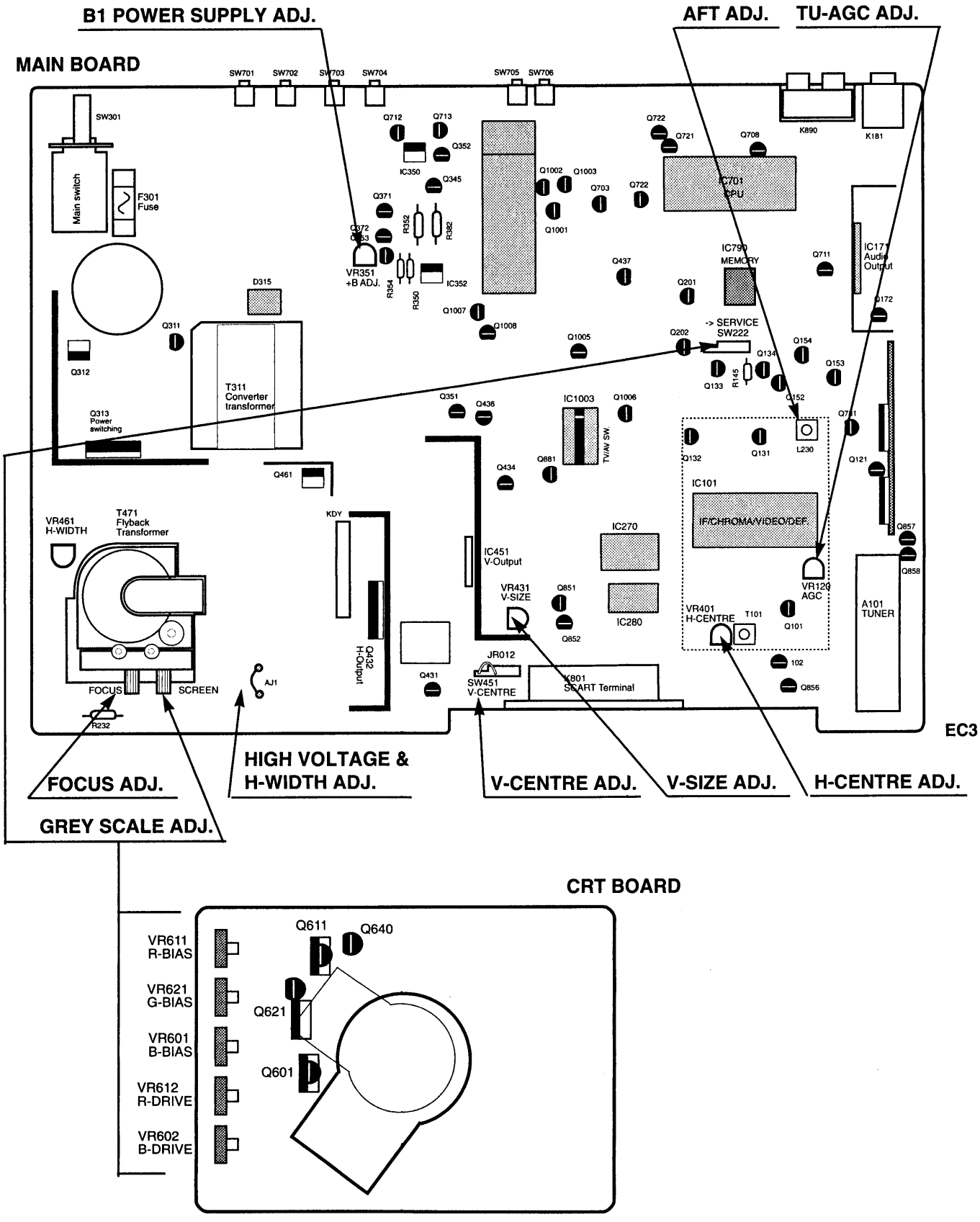
A horizontal oscillation signal is output from pin37 of IC101 and switches the drive transistor Q431. This switching signal is current amplified by the drive transformer T431 and drives the output transistor Q432. When Q432 becomes ON, an amplifying current flows directly to DY through C441/442 → DY → Q432 → GND, and defection is performed in the last half of the scanning period. Next, when Q432 becomes OFF, the charge that had been stored in DY up to that point releases a resonance current to the resonant capacitors C420 and C437 and charges them.The current stored in C420 and C437 is then flowed back to DY, and an opposite charge is then stored in DY. This opposite charge then switches the dumper diode in Q432 ON, the resonance state is completed, and an amplifying current is then flowed again directly to DY through the dumper diode. By this means, deflection in the first half of the scanning period is performed, and when Q432 becomes ON at the end of the first half of the scanning period, deflection during the last half is begun, thus completing one cycle.

7.CPU

Pin description

Pin1: H-sync. input (Horizontal pulse for OSD)
Pin2: V-sync. input (Vertical pulse for OSD)
Pin3: Volume control output (6-bit DAC)
Pin4: Colour control output (6-bit DAC)
Pin5: Brightness control output (6-bit DAC)
Pin6: Contrast control output (6-bit DAC)
Pin7: Sharpness control output(6-bit DAC)
Pin8: 50Hz/60Hz switch
Pin9: AV1/AV2 output (L:AV1)
Pin10: TV/AV output (L:AV)
Pin11: Option switch
Pin12: I²C bus SCL (Serial clock for memory)
Pin13: I²C bus SDA (Serial date for memory)
Pin14: Tuning voltage output
Pin15: Ident signal input (L:No signal)
Pin16: R/C signal input
Pin17: SCART auto switch input (H: VCR play)
Pin18: GND
Pin19: Ignor output
Pin20: Option switch (AV2)
Pin21: AFT input
Pin22: Not used
Pin23: Supply Ground
Pin24: Oscillator input for CPU
Pin25: Oscillator output for CPU
Pin26: Supply Ground
Pin27: Power supply(+5V)
Pin28: Oscillator output for OSD
Pin29: Oscillator input for OSD
Pin30: Reset input
Pin31: Protect signal input (L:Power circuit defects)
Pin32: Not used(GND)
Pin33: AFT signal input
Pin34: Option switch (GND)
Pin35: Key scan signal input
Pin36: Timer-ON (Timer LED drive)
Pin37: S-VHS detect input(Sin:H)
Pin38: SIF switch output
Pin39: France L/L' switch output
Pin40: France L/L' switch output
Pin41: Posi./Nega. switch output
Pin42: Band switch output (L: UHF)
Pin43: Band switch output (L: VHF-H)
Pin44: Band switch output (L: VHF-L)
Pin45: 5.5MHz switch output
Pin46: Line mute output
Pin47: Mute output
Pin48: Power ON/OFF output (H:ON)
Pin49: Blanking output for OSD
Pin50: Not used (Open)
Pin51: Green output for OSD
Pin52: Red output for OSD

SERVICE CONTROL ADJUSTMENT



B1 POWER SUPPLY ADJUSTMENT

1. Set VR351 to be mechanical centre before pressing the main switch.
2. Tune the receiver to PAL circular pattern.
3. Set brightness and contrast controls to normal.
4. Connect digital V-meter between R350 and R354.
5. By using VR351, adjust voltage to 130 ± 0.5 V

AFT ADJUSTMENT

1. Tune the receiver to the clearest station.
2. By using L230, adjust AFT to obtain the best picture.

AGC ADJUSTMENT

NOTE: ***Do not attempt this adjustment with weak signal.***

1. Tune the receiver to the clearest station.
2. Set AGC VR(VR120) in direction which causes snow noise to appear, then in the opposite direction until snow noise just disappears.

GREY SCALE ADJUSTMENT

[SCREEN VR ADJUSTMENT]

1. Tune the receiver to the white pattern.
2. Set brightness and contrast control to normal.
3. Set SW220 to "SERVICE" position.
4. Set VR601and VR611 to be mechanical centre.
5. Turn VR602, VR612 and VR622 fully counter-clockwise.
6. Set screen VR for one colour to be just visible.

[BIAS VR ADJUSTMENT]

7. By using VR602, VR612 or VR622, adjust line to be white.
8. Set SW220 to "NORMAL" position.

[DRIVE VR ADJUSTMENT]

9. By using VR601 and VR611, adjust white balance.

HIGH VOLTAGE & WIDTH ADJUSTMENT

[HIGH VOLTAGE ADJUSTMENT]

1. Tune the receiver to PAL circular pattern.
2. Set brightness and contrast controls to maximum.
3. Connect digital V-meter to both terminals of R232(left side)(+) , and high voltage meter to CRT anode.
4. Confirm high voltage to be 26.0 ± 1 KV at beam current 1.1mA , and less than 29.0 KV at 0 beam current.

[H-WIDTH ADJUSTMENT]

5. If H-width is too wide or narrow, connect or disconnect a lead wire AJ1.
6. Reconfirm high voltage.

H-CENTRE ADJUSTMENT

1. Tune the receiver to circular pattern.
2. Adjust H-centre by using VR401.

V-CENTRE ADJUSTMENT

1. Tune the receiver to circular pattern.
2. Adjust V-centre by using SW451.

V-SIZE ADJUSTMENT

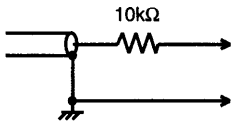
1. Tune the receiver to circular pattern.
2. Adjust V-size by using VR431.

FOCUS ADJUSTMENT

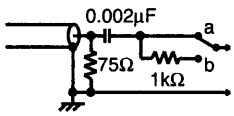
By using FOCUS VR, adjust focus control for well scanning lines.

CIRCUIT ALIGNMENT

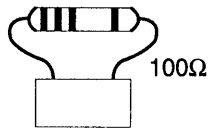
VIF ALIGNMENT



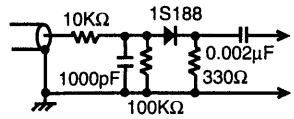
Input probe (A)



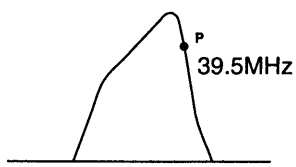
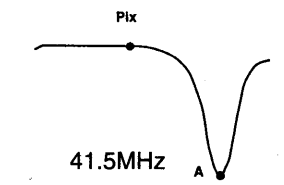
Output probe



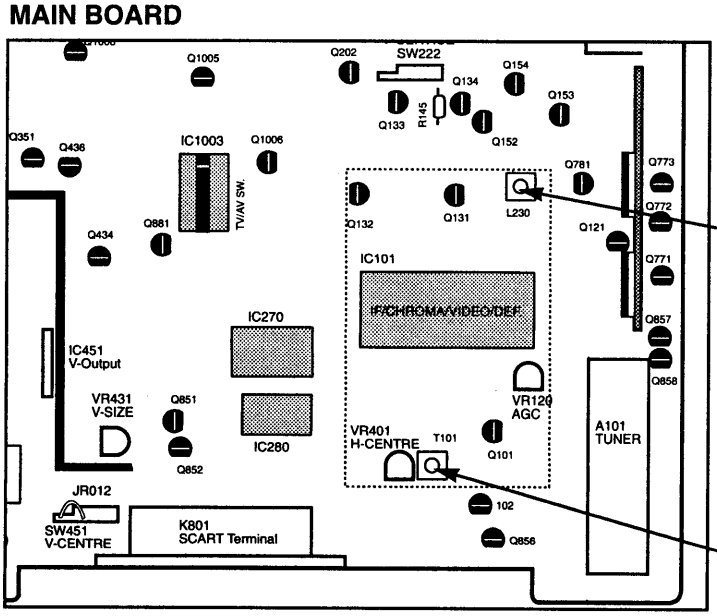
Damping resistor



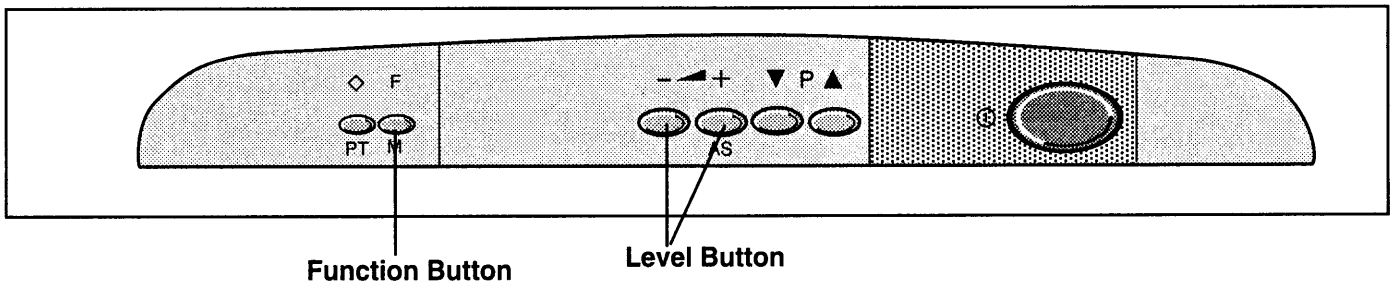
Input probe (B)
for CH trap alignment

		DETECTOR ADJUSTMENT	CH TRAP ADJUSTMENT
SETTING	DC 15V AGC voltage (4.3-4.5V) Output probe Input probe (A) Band Damping R System SW Sweep ATT	R352 & R382 IC101-48 p Tuner IF (Side b) R145 & SW220 No No I 9	R352 & R382 No Tuner IF (Side a) Q101-C (Use prove B) No No I 9
Adjustment		By using L230, adjust "P" to be maximum amplitude.	By using T101, adjust "A" to bottom of channel trap.
VIF waveform			

MAIN BOARD



MEMORY IC REPLACEMENT (Important Notice)



Function Button

Level Button

When you replace a memory IC (IC790), it is necessary to initialise the IC as follows.

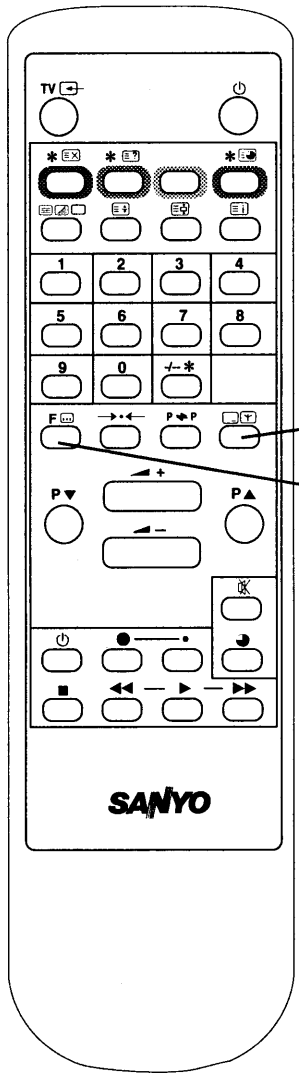
A. Initialisation of Memory IC

1. When you press and hold the Function button on the TV set and then press the Recall button on the RC transmitter, the following picture will appear on the screen.

ITEM -1	SET→ 0

2. Confirm SET number of all items is **"0"** by pressing the Function button.
3. If it is not "0", change to "0" by the Level (+/-) button. (Changing the SET number, automatically memorised.)
4. Press the Recall button, to return the normal TV mode.

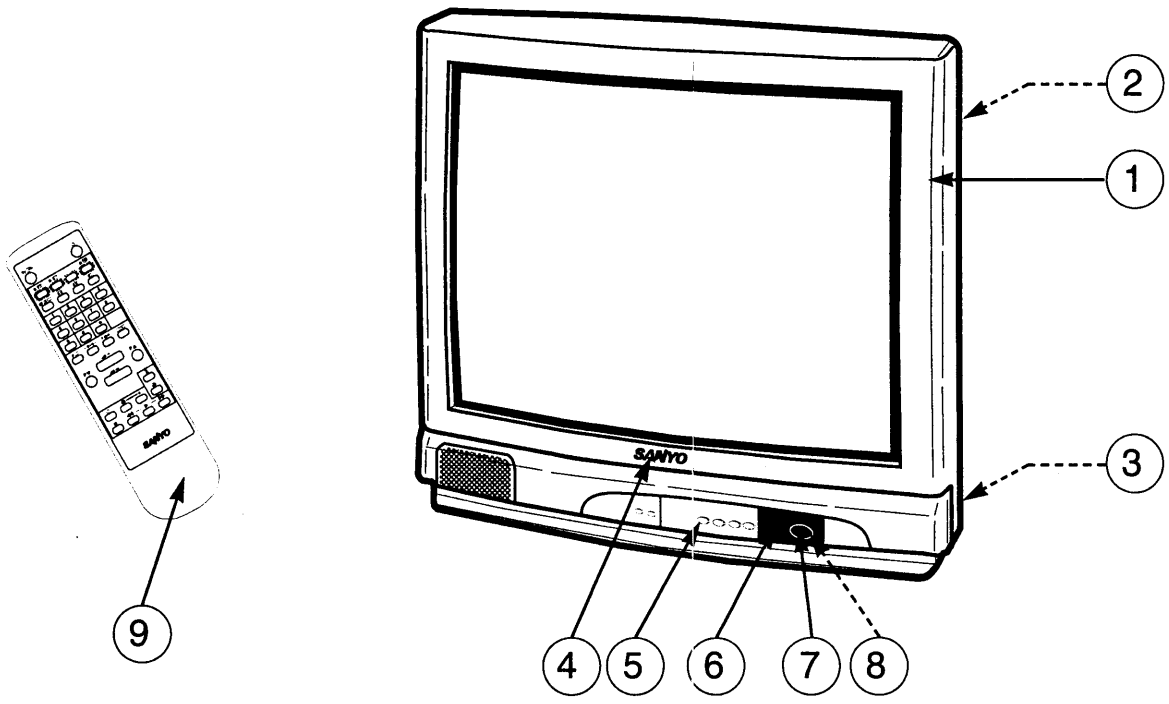
For more information, please refer to "special functions" on the instruction manual.



Recall Button

Function Button

CABINET PARTS LIST



C25EG90B (CB5953)

REF No.	PART No.	DESCRIPTION	REF No.	PART No.	DESCRIPTION
1.	610 256 4266	ASSY,CABINET FR-E8AC			
2.	610 254 9201	CABINET BACK-E8YC			
3.	610 253 2449	HOLDER AC CORD-GBR-D4VA			
4.	645 003 9256	BADGE,SANYO*46.2X13.5L45			
5.	610 256 4303	BUTTON UNIT-E8AC			
6.	610 255 2447	DEC BOARD-E8GC			
7.	610 255 2423	BUTTON POWER-E8GC			
8.	610 210 7302	COIL SPRING-D8HA			
9.	645 008 9572	ASSY,REMOCON JXTC			
	610 251 6821	ASSY,PWB,RC-PWBUNIT JXTA			
	610 251 6876	RC-CASE TOP-JXTA			
	610 251 6883	RC-CASE BOTTOM-JXTA			
	610 251 6890	RC-BATTERY LID-JXTA			
	610 251 6906	RC-TRANSPARENT BOARD-JXTA			
	610 255 1150	DEC RC SHEET-JXTC			

CHASSIS ELECTRICAL PARTS LIST

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a ⚠ mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark.

Note Parts order must contain Service Ref. No., Part No., and descriptions.

Ref. No.	Part No.	Description

Read description in the Capacitor and Resistor as follows:

CAPACITOR
CERAMIC 100P K 50V

- 50V — Rated Voltage
- K — Tolerance Symbols:
  Less than 10PF
  A: Not specified B: ±0.1PF C: ±0.25PF
  D: ±0.5PF F: ±1PF G: ±2PF
  R: ±0.25-0PF S: ±0-0.25PF E: +0-1PF
  More than 10PF
  A: Not specified B: ±0.1% C: ±0.25%
  D: ±0.5% F: ±1% G: ±2%
  H: ±3% J: ±5% K: ±10%
  L: ±15% M: ±20% N: ±30%
  P: +100-0% Q: +30-10% T: +50-10%
  U: +75-10% V: +20-10% W: +100-10%
  X: +40-20% Y: +150-10% Z: +80-20%
- 100P — Rated value: P=pico farad, U=Micro farad
- CERAMIC — Material:
  - CERAMIC..... Ceramic
  - MT-PAPER..... Metallized Paper
  - POLYESTER..... Polyester
  - MT-POLYEST.... Metallized Polyester
  - POLYPRO..... Polypropylene
  - MT-POLYPRO.... Metallized Polypropylene
  - COMPO FILM..... Composite film
  - MT-COMPO..... Metallized Composite
  - STYRENE..... Styrene
  - TA-SOLID..... Tantalum Solid
  - AL-SOLID..... Aluminium Solid
  - ELECT..... Electrolytic
  - NP-ELECT..... Non-polarized Electrolytic
  - OS-SOLID..... Aluminium Solid with Organic Semiconductive Electrolytic
  - DL-ELECT..... Doble Layered Electrolytic

RESISTOR
CARBON 4.7K J A 1/4W

- 1/4W — Rated Wattage
- A — Performance Symbols:
  A: General B: Non flammable Z Low noise
  Other: Temperature coefficient
- J — Tolerance Symbols:
  A: ±0.05% B: ±0.1% C: ±0.25% D: ±0.5%
  F: ±1% G: ±2% J: ±5% K: ±10%
  M: ±20% P: +5-15%
- 4.7K — Rated value, ohms:
  K: 1,000, M: 1,000,000
- CARBON — Material:
  - CARBON..... Carbon
  - MT-FILM..... Metal Film
  - OXIDE-MT..... Oxide Metal Film
  - SOLID..... Composition
  - MT-GLAZE..... Metal Glaze
  - WIRE WOUND... Wire Wound
  - CERAMIC RES.. Ceramic
  - FUSIBLE RES.... Fusible

Ref. No.	Part No.	Description

SERVICE REF. NO. C25EG90B-00

OUT OF CIRCUIT BOARD

PICTURE TUBE		
⚠Q901	4.4 007 1104	CRT A59ECY13X38
COIL		
⚠L901	645 003 0031	COIL,DEGAUSSING
	645 003 0062	COIL,DEGAUSSING
MISCELLANEOUS		
SP901	610 232 6086	SPEAKER
	610 230 5234	SPEAKER
⚠W901	645 011 8838	CORD,POWER
W902	610 024 2210	GROUNDING CONNECTOR-D8AC
	610 204 6083	GROUNDING CONNECTOR

ASSY,PWB,MAIN E8AA 1AA0B10E086G0

TRANSISTOR		
Q101	405 013 3305	TR 2SC2216(SAN)
Q131	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q134	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q152	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q201	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q202	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q311	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q312	405 058 0208	TR 2SC3807-R-CTV-YA
Q313	405 018 9203	TR 2SC3895-T-CTV-YB
Q351	405 009 6907	TR 2SB985-S

Ref. No.	Part No.	Description
	405 009 7003	TR 2SB985-T
Q352	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q353	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q354	405 008 4805	TR 2SB764-E
Q371	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q372	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q381	405 023 4903	TR 2SD400-D-MP
	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
Q431	405 018 0507	TR 2SC3332-R
	405 018 0606	TR 2SC3332-S
Q432	405 095 0209	TR 2SD1556-3E
Q436	405 019 3804	TR 2SC536-G-NP
Q437	405 019 3804	TR 2SC536-G-NP
Q461	405 064 7307	TR 2SB1274-Q-RA
	405 064 7406	TR 2SB1274-R-RA
	405 064 7505	TR 2SB1274-S-RA
Q462	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q703	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q708	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q711	405 118 4207	TR PH2369
Q722	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q851	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q852	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q857	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
Q858	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP

Ref. No.	Part No.	Description
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q881	406 007 2106	TR JC546A
	406 007 2007	TR JC546B
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
INTEGRATED CIRCUIT		
IC101	409 309 6209	IC TDA8361/N3
IC171	409 073 1509	IC AN5265
IC270	409 322 0505	IC TDA4662/V1
	409 291 0605	IC TDA4661/V2
IC350	409 026 8609	IC L78M05-RA
IC352	409 285 5203	IC L78M08-RA
IC451	409 192 5709	IC LA7833
IC701	410 221 1906	IC M37210M3-623SP
IC790	409 247 7702	IC ST24C02AB1
	409 281 8307	IC 24C02A/P
	409 333 3700	IC 24LC02B/P
CAPACITOR		
C100	403 074 8901	CERAMIC 680P K 50V
C101	403 233 0302	ELECT 100U M 16V
C102	403 028 2009	CERAMIC 56P J 50V
C105	403 248 1400	ELECT 1U M 50V
C106	403 248 2001	ELECT 4.7U M 25V
C107	403 248 1608	ELECT 47U M 16V
C108	403 026 9703	CERAMIC 5P C 50V
C109	403 026 9703	CERAMIC 5P C 50V
C113	403 069 8305	CERAMIC 0.01U Z 50V
C114	403 069 8305	CERAMIC 0.01U Z 50V
C115	403 069 8305	CERAMIC 0.01U Z 50V
C117	403 248 1608	ELECT 47U M 16V
C120	403 069 8305	CERAMIC 0.01U Z 50V
C121	403 061 9805	POLYESTER 0.047U J 50V
	403 179 1005	POLYESTER 0.047U J 50V
C122	403 270 2901	MT-POLYEST 0.1U K 63V
	403 237 8007	MT-COMPO 0.1U J 50V
C123	403 233 0807	ELECT 10U M 50V
C126	403 061 2400	POLYESTER 3900P K 50V
	403 179 1401	POLYESTER 3900P K 50V
C127	403 069 0507	CERAMIC 1000P K 50V
C128	403 248 2803	ELECT 2.2U M 50V
C129	403 028 2009	CERAMIC 56P J 50V
C130	403 069 8305	CERAMIC 0.01U Z 50V
C132	403 270 2901	MT-POLYEST 0.1U K 63V
	403 237 8007	MT-COMPO 0.1U J 50V
C134	403 069 0507	CERAMIC 1000P K 50V
C146	403 270 2901	MT-POLYEST 0.1U K 63V
	403 237 8007	MT-COMPO 0.1U J 50V
C153	403 011 3808	CERAMIC 120P J 50V
C170	403 069 8305	CERAMIC 0.01U Z 50V
C171	403 258 3302	ELECT 33U M 16V
C172	403 270 3908	MT-POLYEST 0.47U K 63V
	403 256 0808	MT-COMPO 0.47U J 50V
C173	403 056 8103	POLYESTER 1000P K 50V
	403 179 3900	POLYESTER 1000P K 50V
C175	403 248 1905	ELECT 10U M 16V
C176	403 248 1905	ELECT 10U M 16V
C180	403 270 2901	MT-POLYEST 0.1U K 63V
	403 237 8007	MT-COMPO 0.1U J 50V
C181	403 218 8101	ELECT 1000U M 25V
C182	403 086 2300	NP-ELECT 1U M 50V
C185	403 199 9708	ELECT 470U M 25V
C188	403 233 1507	ELECT 4.7U M 50V
C201	403 014 0200	CERAMIC 18P J 50V
C202	403 270 2901	MT-POLYEST 0.1U K 63V
	403 237 8007	MT-COMPO 0.1U J 50V
C203	403 061 8303	POLYESTER 4700P K 50V
	403 179 1104	POLYESTER 4700P K 50V
C204	403 270 2901	MT-POLYEST 0.1U K 63V

Ref. No.	Part No.	Description			Ref. No.	Part No.	Description		
	403 237 8007	MT-COMPO	0.1U J	50V	C371	403 201 5001	ELECT	330U M	16V
C205	403 270 2901	MT-POLYEST	0.1U K	63V	C372	403 194 4609	ELECT	470U M	16V
	403 237 8007	MT-COMPO	0.1U J	50V	C373	403 248 1400	ELECT	1U M	50V
C206	403 233 0807	ELECT	10U M	50V	C381	403 248 1905	ELECT	10U M	16V
C207	403 248 2803	ELECT	2.2U M	50V	C383	403 244 1206	ELECT	100U M	10V
C208	403 270 2901	MT-POLYEST	0.1U K	63V	C401	403 270 2901	MT-POLYEST	0.1U K	63V
	403 237 8007	MT-COMPO	0.1U J	50V		403 237 8007	MT-COMPO	0.1U J	50V
C209	403 270 2901	MT-POLYEST	0.1U K	63V	C402	403 061 8303	POLYESTER	4700P K	50V
	403 237 8007	MT-COMPO	0.1U J	50V		403 179 1104	POLYESTER	4700P K	50V
C210	403 270 2901	MT-POLYEST	0.1U K	63V	C403	403 061 8303	POLYESTER	4700P K	50V
	403 237 8007	MT-COMPO	0.1U J	50V		403 179 1104	POLYESTER	4700P K	50V
C211	403 270 3908	MT-POLYEST	0.47U K	63V	C404	403 086 2300	NP-ELECT	1U M	50V
	403 256 0808	MT-COMPO	0.47U J	50V	C405	403 060 0704	POLYESTER	2700P K	50V
C212	403 057 0601	POLYESTER	0.01U K	50V		403 179 2200	POLYESTER	2700P K	50V
	403 179 3801	POLYESTER	0.01U K	50V	C406	403 059 6205	POLYESTER	0.022U K	50V
C213	403 270 2901	MT-POLYEST	0.1U K	63V		403 179 2408	POLYESTER	0.022U K	50V
	403 237 8007	MT-COMPO	0.1U J	50V	C407	403 233 0302	ELECT	100U M	16V
C215	403 270 3908	MT-POLYEST	0.47U K	63V	C410	403 056 9704	POLYESTER	0.01U J	50V
	403 256 0808	MT-COMPO	0.47U J	50V		403 178 9309	POLYESTER	0.01U J	50V
C216	403 270 2901	MT-POLYEST	0.1U K	63V	⚠C420	404 060 7809	MT-POLYPRO	6000P J	1.5K
	403 237 8007	MT-COMPO	0.1U J	50V		404 060 7908	MT-POLYPRO	6000P J	1.5K
C220	403 194 4609	ELECT	470U M	16V	C422	403 082 6906	POLYPRO	0.12U J	200V
C221	403 270 2901	MT-POLYEST	0.1U K	63V	⚠C423	404 040 8109	MT-POLYPRO	5600P J	1.5K
	403 237 8007	MT-COMPO	0.1U J	50V		404 040 7805	MT-POLYPRO	5600P J	1.5K
C222	403 270 2901	MT-POLYEST	0.1U K	63V	C424	403 083 4901	POLYPRO	0.027U J	400V
	403 237 8007	MT-COMPO	0.1U J	50V	C425	403 083 4307	POLYPRO	0.022U J	400V
C231	403 194 2100	NP-ELECT	4.7U M	100V	C426	403 066 6106	MT-POLYEST	0.47U J	250V
C232	403 138 1602	ELECT	1U M	100V	C431	403 270 4004	MT-POLYEST	0.056U K	63V
C233A	403 075 8009	CERAMIC	0.01U K	500V		403 260 3109	MT-COMPO	0.056U J	50V
C234	403 248 2803	ELECT	2.2U M	50V	C432	403 075 7101	CERAMIC	1000P K	500V
C240	403 069 8305	CERAMIC	0.01U Z	50V	C433	403 076 3102	CERAMIC	3900P K	500V
C270	403 059 6205	POLYESTER	0.022U K	50V	C434	403 229 1207	ELECT	47U M	35V
	403 179 2408	POLYESTER	0.022U K	50V	⚠C441	403 082 8009	POLYPRO	0.2U J	200V
C271	403 069 0507	CERAMIC	1000P K	50V	⚠C442	403 082 6906	POLYPRO	0.12U J	200V
C272	403 069 0507	CERAMIC	1000P K	50V	C451	403 148 2002	ELECT	470U M	35V
C275	403 248 1905	ELECT	10U M	16V		403 161 3109	ELECT	470U M	35V
C282	403 069 8305	CERAMIC	0.01U Z	50V	C452	403 217 1103	ELECT	220U M	35V
⚠C301	404 047 3602	MT-POLYEST	0.1U M	125V	C453	403 023 9706	CERAMIC	39P J	50V
	404 066 6707	MT-POLYEST	0.1U M	250V	C454	403 069 8305	CERAMIC	0.01U Z	50V
	404 044 0901	MT-COMPO	0.1U M	250V	C455	403 075 7101	CERAMIC	1000P K	500V
⚠C302	404 047 3602	MT-POLYEST	0.1U M	125V	C456	403 233 0807	ELECT	10U M	50V
	404 066 6707	MT-POLYEST	0.1U M	250V	C459	403 065 9801	MT-POLYEST	0.22U K	100V
	404 044 0901	MT-COMPO	0.1U M	250V		403 188 0907	MT-POLYEST	0.22U K	100V
C303	403 076 7100	CERAMIC	1000P M	1K	C461	403 155 1203	ELECT	3300U M	25V
C304	403 076 7100	CERAMIC	1000P M	1K	C462	403 248 1400	ELECT	1U M	50V
C305	403 076 7100	CERAMIC	1000P M	1K	C464	403 257 0807	ELECT	0.47U M	50V
C306	403 076 7100	CERAMIC	1000P M	1K	C465	403 066 0104	MT-POLYEST	2.2U K	100V
C307	404 028 9401	ELECT	220U M	400V	C466	403 270 2901	MT-POLYEST	0.1U K	63V
C314	403 270 2901	MT-POLYEST	0.1U K	63V		403 237 8007	MT-COMPO	0.1U J	50V
	403 237 8007	MT-COMPO	0.1U J	50V	C467	403 241 3807	ELECT	220U M	10V
C315	403 058 2604	POLYESTER	0.015U J	50V	C468	403 258 3500	ELECT	22U M	25V
	403 179 3207	POLYESTER	0.015U J	50V	C469	403 233 0807	ELECT	10U M	50V
C316	403 165 8407	CERAMIC	680P K	2K	C470	403 069 8305	CERAMIC	0.01U Z	50V
	403 186 1104	CERAMIC	680P K	2K	C701	403 248 2001	ELECT	4.7U M	25V
C317	403 059 6205	POLYESTER	0.022U K	50V	C703	403 018 6208	CERAMIC	220P J	50V
	403 179 2408	POLYESTER	0.022U K	50V	C704	403 068 9006	CERAMIC	100P K	50V
⚠C331	404 060 6505	CERAMIC	2200P M	400V	C705	403 068 9006	CERAMIC	100P K	50V
	404 060 6604	CERAMIC	2200P M	400V	C706	403 068 9006	CERAMIC	100P K	50V
C351	403 165 9305	CERAMIC	680P K	1K	C707	403 068 9006	CERAMIC	100P K	50V
	403 185 9101	CERAMIC	680P K	1K	C709	403 248 1400	ELECT	1U M	50V
C352	403 165 8605	CERAMIC	470P K	2K	C711	403 248 2001	ELECT	4.7U M	25V
	403 232 1805	CERAMIC	470P K	2K	C712	403 248 1400	ELECT	1U M	50V
C354	403 186 3108	CERAMIC	390P K	1K	C713	403 248 1400	ELECT	1U M	50V
C355	403 165 6106	CERAMIC	470P K	1K	C716	403 233 1507	ELECT	4.7U M	50V
	403 186 2903	CERAMIC	470P K	1K	C717	403 068 9006	CERAMIC	100P K	50V
C361	404 055 9801	ELECT	220U M	200V	C718	403 071 5606	CERAMIC	220P K	50V
C362	403 281 1108	ELECT	22U M	250V	C719	403 069 0507	CERAMIC	1000P K	50V
C363	403 148 2002	ELECT	470U M	35V	C721	403 270 2901	MT-POLYEST	0.1U K	63V
C364	403 148 0404	ELECT	1000U M	25V		403 237 8007	MT-COMPO	0.1U J	50V
	403 134 5307	ELECT	1000U M	25V	C722	403 248 1608	ELECT	47U M	16V
C365	403 158 0807	ELECT	4700U M	25V	C723	403 028 1606	CERAMIC	56P J	50V
	403 160 8808	ELECT	4700U M	25V	C724	403 028 1606	CERAMIC	56P J	50V

Ref. No.	Part No.	Description		
C725	403 069 8305	CERAMIC	0.01U Z	50V
C727	403 270 2901	MT-POLYEST	0.1U K	63V
	403 237 8007	MT-COMPO	0.1U J	50V
C729	403 248 1905	ELECT	10U M	16V
C741	403 270 3403	MT-POLYEST	0.22U K	63V
	403 237 7901	MT-COMPO	0.22U J	50V
C742	403 270 2901	MT-POLYEST	0.1U K	63V
	403 237 8007	MT-COMPO	0.1U J	50V
C744	403 068 9006	CERAMIC	100P K	50V
C746	403 026 0809	CERAMIC	47P J	50V
C854	403 270 3908	MT-POLYEST	0.47U K	63V
	403 256 0808	MT-COMPO	0.47U J	50V
C855	403 069 8305	CERAMIC	0.01U Z	50V
C856	403 248 1905	ELECT	10U M	16V
C859	403 068 9006	CERAMIC	100P K	50V
C881	403 270 2901	MT-POLYEST	0.1U K	63V
	403 237 8007	MT-COMPO	0.1U J	50V
RESISTOR				
R101	401 026 9303	CARBON	47 JA	1/6W
R103	401 024 6700	CARBON	100 JA	1/6W
R104	401 027 2600	CARBON	5.6K JA	1/6W
R105	401 024 7004	CARBON	1K JA	1/6W
R106	401 025 7409	CARBON	220 JA	1/6W
R107	401 026 0409	CARBON	27 JA	1/6W
R121	401 027 5908	CARBON	68K JA	1/6W
R123	401 025 8703	CARBON	220K JA	1/6W
R124	401 027 5502	CARBON	6.8K JA	1/6W
R125	401 025 3807	CARBON	180 JA	1/6W
R126	401 027 2600	CARBON	5.6K JA	1/6W
R127	401 024 6700	CARBON	100 JA	1/6W
R131	401 027 5502	CARBON	6.8K JA	1/6W
R132	401 027 0309	CARBON	47K JA	1/6W
R133	401 025 3807	CARBON	180 JA	1/6W
R134	401 024 7004	CARBON	1K JA	1/6W
R135	401 024 7004	CARBON	1K JA	1/6W
R138	401 026 6609	CARBON	390 JA	1/6W
R143	401 026 4308	CARBON	3.3K JA	1/6W
R149	401 025 1605	CARBON	1.5K JA	1/6W
R151	401 024 7004	CARBON	1K JA	1/6W
R153	401 026 3905	CARBON	330 JA	1/6W
R156	401 027 5205	CARBON	680 JA	1/6W
R157	401 026 9303	CARBON	47 JA	1/6W
R165	401 027 2600	CARBON	5.6K JA	1/6W
R166	401 024 7400	CARBON	10K JA	1/6W
R170	401 025 1902	CARBON	15K JA	1/6W
R171	401 026 3707	CARBON	33 JA	1/6W
R172	401 027 2303	CARBON	560 JA	1/6W
R174	401 024 7400	CARBON	10K JA	1/6W
R183	401 024 7004	CARBON	1K JA	1/6W
R184	401 026 7408	CARBON	39K JA	1/6W
R201	401 027 0309	CARBON	47K JA	1/6W
R202	401 024 7707	CARBON	100K JA	1/6W
R203	401 024 6700	CARBON	100 JA	1/6W
R204	401 024 6700	CARBON	100 JA	1/6W
R205	401 024 6700	CARBON	100 JA	1/6W
R209	401 024 6700	CARBON	100 JA	1/6W
R210	401 025 4200	CARBON	1.8K JA	1/6W
R211	401 024 7400	CARBON	10K JA	1/6W
R213	401 026 7408	CARBON	39K JA	1/6W
R215	401 025 4200	CARBON	1.8K JA	1/6W
R219	401 019 1000	CARBON	390 JA	1/4W
R230	401 027 5908	CARBON	68K JA	1/6W
R231	401 027 9005	CARBON	82K JA	1/6W
R232	401 012 5708	CARBON	1K JA	1/4W
R234	401 024 7400	CARBON	10K JA	1/6W
R235	401 026 7408	CARBON	39K JA	1/6W
R236	401 026 1000	CARBON	2.7K JA	1/6W
R237	401 025 7805	CARBON	2.2K JA	1/6W
R274	401 024 7400	CARBON	10K JA	1/6W
R275	401 025 7409	CARBON	220 JA	1/6W
R280	401 025 1902	CARBON	15K JA	1/6W

Ref. No.	Part No.	Description		
R281	401 027 5502	CARBON	6.8K JA	1/6W
⚠R301	401 008 8607	CARBON	220K JA	1/2W
R302	402 067 7709	WIRE WOUND	3.9 KA	7W
R311	401 027 2600	CARBON	5.6K JA	1/6W
R315	401 025 8208	CARBON	22K JA	1/6W
R317	401 024 7004	CARBON	1K JA	1/6W
R319	401 016 1508	CARBON	22 JA	1/4W
R320	401 007 5805	CARBON	120K JA	1/2W
R321	401 007 5805	CARBON	120K JA	1/2W
R322	401 014 5201	CARBON	15K JA	1/4W
R323	401 026 1000	CARBON	2.7K JA	1/6W
R324	401 069 6208	OXIDE-MT	82 JA	2W
R325	401 069 1708	OXIDE-MT	68 JA	2W
R326	401 018 3401	CARBON	3.3K GA	1/4W
⚠R331	402 000 8305	SOLID	5.6M KA	1/2W
⚠R332	402 000 8305	SOLID	5.6M KA	1/2W
R350	401 014 6109	CARBON	150K JA	1/4W
R352	401 066 9103	OXIDE-MT	27 JA	2W
R353	401 027 5502	CARBON	6.8K JA	1/6W
R354	401 015 4708	CARBON	180K JA	1/4W
R355	401 061 4400	OXIDE-MT	33K JA	1W
R356	401 013 6407	CARBON	12K JA	1/4W
R360	401 059 3903	OXIDE-MT	1.5K JA	1W
R362	402 052 2702	WIRE WOUND	12 KA	FH 3W
R364	401 012 7009	CARBON	10K JA	1/4W
R365	401 019 1901	CARBON	3.9K JA	1/4W
R366	401 012 7009	CARBON	10K JA	1/4W
R367	401 013 5301	CARBON	1.2K JA	1/4W
R370	401 027 8602	CARBON	8.2K JA	1/6W
R371	401 024 9701	CARBON	12K JA	1/6W
R372	401 026 7606	CARBON	390K JA	1/6W
R373	401 027 3201	CARBON	560K JA	1/6W
R374	401 025 8703	CARBON	220K JA	1/6W
R375	401 025 8208	CARBON	22K JA	1/6W
R376	401 024 7400	CARBON	10K JA	1/6W
R382	401 058 1108	OXIDE-MT	10 JA	1W
R383	401 025 3807	CARBON	180 JA	1/6W
R401	401 024 6700	CARBON	100 JA	1/6W
R402A	401 024 8001	CARBON	1M JA	1/6W
R403	401 024 6700	CARBON	100 JA	1/6W
R404	401 025 8208	CARBON	22K JA	1/6W
R405	401 024 6700	CARBON	100 JA	1/6W
R406	401 026 7606	CARBON	390K JA	1/6W
R407	401 025 8208	CARBON	22K JA	1/6W
R408	401 024 6700	CARBON	100 JA	1/6W
R409	401 026 9907	CARBON	4.7K JA	1/6W
R410	401 025 8208	CARBON	22K JA	1/6W
R412	401 027 0309	CARBON	47K JA	1/6W
R413	401 026 9907	CARBON	4.7K JA	1/6W
R414	401 026 1000	CARBON	2.7K JA	1/6W
R415	401 026 4605	CARBON	33K JA	1/6W
R416	401 024 7400	CARBON	10K JA	1/6W
R417	401 025 8208	CARBON	22K JA	1/6W
R418	401 026 1307	CARBON	27K JA	1/6W
R422	402 068 6909	WIRE WOUND	7W	
R431	401 025 7409	CARBON	220 JA	1/6W
R432	401 024 7004	CARBON	1K JA	1/6W
R433	401 010 3102	CARBON	470 JA	1/2W
R434	401 009 9306	CARBON	390 JA	1/2W
R436	401 014 5201	CARBON	15K JA	1/4W
R441	401 058 3706	OXIDE-MT	1K JA	1W
R448	401 065 2808	OXIDE-MT	120 JA	2W
R451	401 026 8108	CARBON	4.7 JA	1/6W
R452	401 026 7002	CARBON	3.9K JA	1/6W
R453	401 018 3807	CARBON	3.3K JA	1/4W
R454	401 024 9008	CARBON	120 JA	1/6W
R455	401 025 7805	CARBON	2.2K JA	1/6W
R456	401 020 2003	CARBON	4.7K JA	1/4W
R457	401 026 9907	CARBON	4.7K JA	1/6W
R458	401 059 2708	OXIDE-MT	150 JA	1W
R459	401 057 6708	OXIDE-MT	0.68 JA	1W
R460	401 010 7605	CARBON	560 JA	1/2W

Ref. No.	Part No.	Description		
R463	401 025 4200	CARBON	1.8K JA	1/6W
R464	401 014 4105	CARBON	1.5K JA	1/4W
R465	401 027 3201	CARBON	560K JA	1/6W
R467	401 058 3706	OXIDE-MT	1K JA	1W
R468	401 025 4200	CARBON	1.8K JA	1/6W
R469	401 027 5908	CARBON	68K JA	1/6W
R471	401 025 1605	CARBON	1.5K JA	1/6W
R472	401 027 0309	CARBON	47K JA	1/6W
R473	401 022 1905	CARBON	680 JA	1/4W
R474	401 009 0907	CARBON	270 JA	1/2W
R475	401 009 5803	CARBON	330 JA	1/2W
R480	401 027 0309	CARBON	47K JA	1/6W
R481	401 064 5206	OXIDE-MT	1.5 JA	2W
R700	401 024 7400	CARBON	10K JA	1/6W
R701	401 024 7400	CARBON	10K JA	1/6W
R702	401 026 4308	CARBON	3.3K JA	1/6W
R703	401 024 7400	CARBON	10K JA	1/6W
R707	401 024 6700	CARBON	100 JA	1/6W
R708	401 024 9701	CARBON	12K JA	1/6W
R709	401 027 9005	CARBON	82K JA	1/6W
R710	401 024 7004	CARBON	1K JA	1/6W
R711	401 026 4308	CARBON	3.3K JA	1/6W
R712	401 025 4200	CARBON	1.8K JA	1/6W
R713	401 025 1902	CARBON	15K JA	1/6W
R715	401 024 7400	CARBON	10K JA	1/6W
R716	401 026 4605	CARBON	33K JA	1/6W
R717	401 024 9305	CARBON	1.2K JA	1/6W
R718	401 026 7002	CARBON	3.9K JA	1/6W
R721	401 026 4605	CARBON	33K JA	1/6W
R723	401 024 7004	CARBON	1K JA	1/6W
R724	401 024 7400	CARBON	10K JA	1/6W
R726	401 024 7400	CARBON	10K JA	1/6W
R727	401 024 7707	CARBON	100K JA	1/6W
R733	401 024 9701	CARBON	12K JA	1/6W
R734	401 026 9907	CARBON	4.7K JA	1/6W
R735	401 027 8602	CARBON	8.2K JA	1/6W
R736	401 025 1605	CARBON	1.5K JA	1/6W
R737	401 024 9701	CARBON	12K JA	1/6W
R738	401 024 9701	CARBON	12K JA	1/6W
R740	401 027 9005	CARBON	82K JA	1/6W
R741	401 024 7400	CARBON	10K JA	1/6W
R742	401 024 6700	CARBON	100 JA	1/6W
R743	401 025 1308	CARBON	150 JA	1/6W
R744	401 026 9907	CARBON	4.7K JA	1/6W
R745	401 025 1308	CARBON	150 JA	1/6W
R746	401 026 9907	CARBON	4.7K JA	1/6W
R747	401 024 6700	CARBON	100 JA	1/6W
R748	401 024 6700	CARBON	100 JA	1/6W
R749	401 026 7002	CARBON	3.9K JA	1/6W
R750	401 026 4308	CARBON	3.3K JA	1/6W
R758	401 027 2600	CARBON	5.6K JA	1/6W
R759	401 025 7805	CARBON	2.2K JA	1/6W
R761	401 066 2104	OXIDE-MT	18K JA	2W
R762	401 024 7400	CARBON	10K JA	1/6W
R763	401 025 1902	CARBON	15K JA	1/6W
R764	401 025 4903	CARBON	180K JA	1/6W
R766	401 027 2600	CARBON	5.6K JA	1/6W
R767	401 026 9907	CARBON	4.7K JA	1/6W
R768	401 020 0801	CARBON	470 JA	1/4W
R774	401 027 0309	CARBON	47K JA	1/6W
R775	401 027 0309	CARBON	47K JA	1/6W
R776	401 027 0309	CARBON	47K JA	1/6W
R780	401 024 7707	CARBON	100K JA	1/6W
R781	401 025 2305	CARBON	150K JA	1/6W
R787	401 024 7400	CARBON	10K JA	1/6W
R791	401 026 6609	CARBON	390 JA	1/6W
R795	401 026 3905	CARBON	330 JA	1/6W
R796	401 025 1605	CARBON	1.5K JA	1/6W
R802	401 026 9600	CARBON	470 JA	1/6W
R810	401 024 7400	CARBON	10K JA	1/6W
R811	401 025 1308	CARBON	150 JA	1/6W
R812	401 025 1605	CARBON	1.5K JA	1/6W
R813	401 026 9907	CARBON	4.7K JA	1/6W
R814	401 026 9907	CARBON	4.7K JA	1/6W
R815	401 027 5502	CARBON	6.8K JA	1/6W
R816	401 025 1902	CARBON	15K JA	1/6W
R817	401 027 0309	CARBON	47K JA	1/6W
R850	401 024 7707	CARBON	100K JA	1/6W
R851	401 024 9701	CARBON	12K JA	1/6W
R852	401 024 9701	CARBON	12K JA	1/6W
R853	401 027 2600	CARBON	5.6K JA	1/6W
R854	401 027 2303	CARBON	560 JA	1/6W
R855	401 027 6608	CARBON	75 JA	1/6W
R856	401 026 7408	CARBON	39K JA	1/6W
R857	401 026 1307	CARBON	27K JA	1/6W
R858	401 027 6608	CARBON	75 JA	1/6W
R859	401 027 6608	CARBON	75 JA	1/6W
R860	401 027 6608	CARBON	75 JA	1/6W
R861	401 027 6608	CARBON	75 JA	1/6W
R862	401 027 6608	CARBON	75 JA	1/6W
R866	401 026 9907	CARBON	4.7K JA	1/6W
R867	401 026 9600	CARBON	470 JA	1/6W
R868	401 024 7400	CARBON	10K JA	1/6W
R870	401 024 7400	CARBON	10K JA	1/6W
R881	401 024 7004	CARBON	1K JA	1/6W
R882	401 024 9305	CARBON	1.2K JA	1/6W
R883	401 026 4308	CARBON	3.3K JA	1/6W
R885	401 024 9305	CARBON	1.2K JA	1/6W
R887	401 024 7004	CARBON	1K JA	1/6W

VARIABLE RESISTOR

VR120	645 006 5422	VR,SEMI,10K N
	610 239 7567	VR B-10K
VR351	645 006 5514	VR,SEMI,2.2K N
	610 239 7581	VR B-2K
VR401	645 006 5422	VR,SEMI,10K N
	610 239 7567	VR B-10K
VR431	645 006 5408	VR,SEMI,100 N
	610 232 7908	VR,SEMI,100 N
VR461	645 006 5606	VR,SEMI,4.7K N
	610 232 8455	VR,SEMI,5K N

TRANSFORMER

T101	610 037 4508	S COIL
⚠T311	645 007 7494	TRANS,POWER,PULSE
	645 009 0349	TRANS,POWER,PULSE
T431	610 000 1077	DRIVE TRANS
⚠T471	645 003 3094	TRANS,FLYBACK

COIL

L103	645 008 2863	INDUCTOR,4.7U K
L135	645 003 9751	INDUCTOR,18U K
L152	645 008 2863	INDUCTOR,4.7U K
L201	645 008 2863	INDUCTOR,4.7U K
L202	645 008 2863	INDUCTOR,4.7U K
L203	645 008 2863	INDUCTOR,4.7U K
L230	610 037 4522	S COIL
L280	645 001 4727	INDUCTOR,10U K
⚠L301	610 221 6912	LINE FILTER
L420	610 031 1039	INDUCTOR
L431	610 032 5821	FILTER COIL
	645 008 5628	INDUCTOR,1U M
L441	610 000 0858	LINEARITY COIL
	610 000 0872	LINEARITY COIL
L442	610 000 0070	COIL
L451	610 210 3908	PEAKING COIL 33UHK
	645 001 5748	INDUCTOR,33U K
L452	610 032 1243	INDUCTOR,150U K
	610 032 1250	INDUCTOR,150U
L461	610 031 1367	INDUCTOR 202J
L462	610 000 0261	COIL
	610 208 3781	COIL
L702	645 008 0203	INDUCTOR,5.6U K
L703	645 008 0203	INDUCTOR,5.6U K

Ref. No.	Part No.	Description
L704	645 003 9751	INDUCTOR,18U K
L705	645 011 0221	INDUCTOR,1.5U K
L706	645 001 4727	INDUCTOR,10U K
L852	645 001 4567	INDUCTOR,10U K
DIODE		
D123	407 012 4208	DIODE 1SS131
	407 012 6004	DIODE 1SS178
D171	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D172	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D201	407 075 9905	ZENER DIODE EQA03-11A
	407 063 8309	ZENER DIODE MTZJ11C
D202	407 075 9905	ZENER DIODE EQA03-11A
	407 063 8309	ZENER DIODE MTZJ11C
D203	407 075 9905	ZENER DIODE EQA03-11A
	407 063 8309	ZENER DIODE MTZJ11C
D210	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D231	407 005 4505	DIODE DS442X
	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D232	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D233	408 007 8607	DIODE 1N4148
	407 013 1008	DIODE 1S1553
D234	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D274	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D275	407 163 8209	ZENER DIODE UZ-5.1BCC
D303	407 006 6300	DIODE ERC05-10B
	407 009 6901	DIODE RM11C
D304	407 006 6300	DIODE ERC05-10B
	407 009 6901	DIODE RM11C
D305	407 006 6300	DIODE ERC05-10B
	407 009 6901	DIODE RM11C
D306	407 006 6300	DIODE ERC05-10B
	407 009 6901	DIODE RM11C
D314	407 005 4505	DIODE DS442X
	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
⚠D315	407 105 8700	PHOTO COUPLE PC113B
	408 009 8407	PHOTO COUPLE CNY17F-3OPT6
D316	407 005 4505	DIODE DS442X
	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D317	407 007 6606	DIODE ES1
	407 007 6903	DIODE ES1Z
	408 009 9008	DIODE BYD33D
D318	407 005 4505	DIODE DS442X
	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D319	407 151 9003	ZENER DIODE UZ-7.5BCC
	407 151 9102	ZENER DIODE UZ-8.2BCA
D351	407 007 7702	DIODE EU2A
D352	407 007 7504	DIODE EU1C
D353	407 007 7603	DIODE EU2
	408 007 2506	DIODE BYW32
D354	407 007 7603	DIODE EU2
	408 007 2506	DIODE BYW32
D355	407 007 7603	DIODE EU2
	408 007 2506	DIODE BYW32
D361	407 151 8600	ZENER DIODE UZ-6.2BCC
	407 164 9908	ZENER DIODE UZ-6.8BCA
D362	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555

Ref. No.	Part No.	Description
D364	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D365	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D366	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D370	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D371	407 151 8600	ZENER DIODE UZ-6.2BCC
	407 164 9908	ZENER DIODE UZ-6.8BCA
D372	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D381	407 127 3400	ZD BZX55C12-GPS-26
	407 163 9206	ZENER DIODE UZ-13BCA
	407 164 4705	ZENER DIODE UZ-13BCB
D401	407 075 9905	ZENER DIODE EQA03-11A
	407 063 8309	ZENER DIODE MTZJ11C
D431	407 163 9909	ZENER DIODE UZ-9.1BCA
	407 162 2703	ZENER DIODE UZ-9.1BCB
D433	407 005 7308	DIODE EM01Z
D438	407 095 8001	DIODE ERD07-15L
D439	407 006 4108	DIODE ERB44-04
D451	407 005 7308	DIODE EM01Z
	408 009 9008	DIODE BYD33D
D465	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D466	407 164 7805	ZENER DIODE UZ-20BCA
D469	407 007 7405	DIODE EU1
D471	407 118 2207	ZENER DIODE 1Z75
D701	407 116 6504	LED SLP-181B-51
D703	407 055 7907	ZENER DIODE RD3.6EL
D704	409 013 0104	IC HZT33
	409 026 8005	IC L5630
	409 057 5103	IC UPC574J
D705	407 075 9905	ZENER DIODE EQA03-11A
	407 063 8309	ZENER DIODE MTZJ11C
D712	408 007 8607	DIODE 1N4148
	407 013 1206	DIODE 1S1555
D721	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D862	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
MISCELLANEOUS		
⚠F301	423 022 2102	FUSE 250V 4A
A101	645 009 5993	TUNER,U
A701	645 007 1546	UNIT,REMOCON RECEIVER
	610 224 5806	RC PREAMP 409-1L
K801	610 009 8275	SOCKET 21P
	610 218 6673	SOCKET 21P
	610 225 2361	SOCKET 21P
⚠PS301	408 013 3801	TH PTH451C262BF140M270
SW220	610 011 2728	SWITCH,LEVER 1P-3T
⚠SW301	645 003 6811	SWITCH,PUSH POWER 2P-2T
SW451	610 011 2728	SWITCH,LEVER 1P-3T
SW701	610 011 2698	SWITCH,PUSH
SW702	610 011 2698	SWITCH,PUSH
SW703	610 011 2698	SWITCH,PUSH
SW704	610 011 2698	SWITCH,PUSH
SW705	610 011 2698	SWITCH,PUSH
SW706	610 011 2698	SWITCH,PUSH
X101	421 004 7404	SAW F TSF5343
X131	645 001 7902	TRAP,CERAMIC 6.0MHZ
	610 015 2885	TRAP,CERAMIC 6.0MHZ
X151	645 003 2813	CERAMIC FILTER
X201	610 239 3347	CRYSTAL OSCILLATOR
X701	645 000 6692	OSC,CERAMIC 8.00MHZ
	645 002 1039	OSC,CERAMIC 8.00MHZ

Ref. No.	Part No.	Description

ASSY,PWB,CRT E8JE 1AA0B10E13000

TRANSISTOR

Q601	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q611	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q621	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q640	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
Q651	406 007 1901	TR JC556A
	406 007 1802	TR JC556B
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP

CAPACITOR

C601	403 073 6403	CERAMIC	470P K	50V
C611	403 073 6403	CERAMIC	470P K	50V
C621	403 073 6403	CERAMIC	470P K	50V
C631	403 077 2708	CERAMIC	1000P P	2K
C651	403 201 5001	ELECT	330U M	16V

RESISTOR

R601	401 018 2800	CARBON	330 JA	1/4W
R602	401 019 1901	CARBON	3.9K JA	1/4W
R603	401 012 5708	CARBON	1K JA	1/4W
R604	401 065 4604	OXIDE-MT	12K JA	2W
R605	401 009 6602	CARBON	3.3K JA	1/2W
R611	401 018 2800	CARBON	330 JA	1/4W
R612	401 019 1901	CARBON	3.9K JA	1/4W
R613	401 016 3809	CARBON	2.2K JA	1/4W
R614	401 065 4604	OXIDE-MT	12K JA	2W
R615-B	401 009 6602	CARBON	3.3K JA	1/2W
R621	401 018 2800	CARBON	330 JA	1/4W
R622	401 019 1901	CARBON	3.9K JA	1/4W
R623	401 015 2704	CARBON	1.8K JA	1/4W
R624	401 065 4604	OXIDE-MT	12K JA	2W
R625-B	401 009 6602	CARBON	3.3K JA	1/2W
R627	401 020 0801	CARBON	470 JA	1/4W
R641	401 020 2003	CARBON	4.7K JA	1/4W
R642	401 018 3807	CARBON	3.3K JA	1/4W
R644	401 017 0807	CARBON	270 JA	1/4W
R652	401 012 7009	CARBON	10K JA	1/4W
R653	401 012 7009	CARBON	10K JA	1/4W

VARIABLE RESISTOR

VR601	645 003 5722	VR,SEMI,4.7K N
VR602	645 003 5647	VR,SEMI,1K N
VR611	645 003 5722	VR,SEMI,4.7K N
VR612	645 003 5647	VR,SEMI,1K N
VR621	645 003 5722	VR,SEMI,4.7K N

COIL

L601	645 008 0012	INDUCTOR,330U K
L611	645 008 0012	INDUCTOR,330U K
L621	645 008 0012	INDUCTOR,330U K

DIODE

D601	407 013 1206	DIODE 1S1555
D611	407 013 1206	DIODE 1S1555
D621	407 013 1206	DIODE 1S1555
D651	407 013 1206	DIODE 1S1555

MISCELLANEOUS

⚠K601-B	610 233 7990	CRT SOCKET

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description

SERVICE REF. NO. C25EG90B-02

C25EG90B-02 differs from C25EG90B-00 on the following points, and others refer to C25EG90B-00.

OUT OF CIRCUIT BOARD

PICTURE TUBE

⚠Q901	414 008 6405	CRT A59ECF20X05

ASSY,PWB,MAIN E8AAM 1AA0B10E190G0

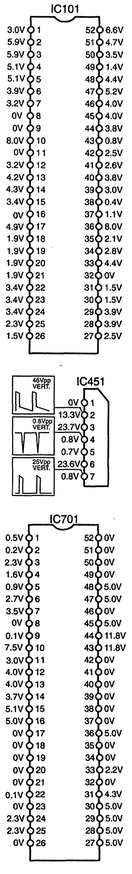
CAPACITOR

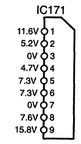
⚠C420	404 044 1502	MT-POLYPRO	6200P J	1.5K
	404 040 8806	MT-POLYPRO	6200P J	1.5K
⚠C441	403 082 7804	POLYPRO	0.18U J	200V

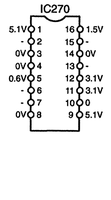
RESISTOR

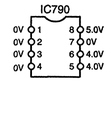
R452	401 027 5502	CARBON	6.8K JA	1/6W
R454	401 026 0607	CARBON	270 JA	1/6W
R455	401 026 1000	CARBON	2.7K JA	1/6W
R460	401 009 5803	CARBON	330 JA	1/2W
R463	401 007 8400	CARBON	1.5K JA	1/2W
R481	401 067 3011	OXIDE-MT	3.9 JA	2W

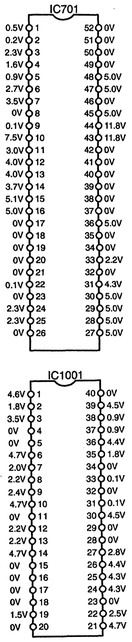
MAIN UNIT

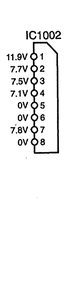












CRT UNIT

Q601	VOLT.	WAVEFORM
B	2.4V	2.8Vp-p HORIZ.
C	86V	91Vp-p HORIZ.
E	1.9V	

Q611	VOLT.	WAVEFORM
B	2.5V	3.4Vp-p HORIZ.
C	87V	100Vp-p HORIZ.
E	2.1V	

Q621	VOLT.	WAVEFORM
B	2.5V	3.2Vp-p HORIZ.
C	81V	105Vp-p HORIZ.
E	2.0V	

Q640	VOLT.
B	1.3V
C	0V
E	1.9V

MAIN UNIT

Q312	VOLT.	WAVEFORM
B	-0.7V	6.6Vp-p
C	-0.6V	4.0Vp-p
E	0V	

Q313	VOLT.	WAVEFORM
B	-0.6V	4.0Vp-p
C	-	660Vp-p
E	0V	

Q431	VOLT.	WAVEFORM
B	0.5V	0.5Vp-p HORIZ.
C	14.0V	50Vp-p HORIZ.
E	0V	

Q432	VOLT.	WAVEFORM
B	0.1V	12Vp-p HORIZ.
C	-	1100Vp-p HORIZ.
E	0V	

IC350	VOLT.
1	5.7V
2	0V
3	5.0V

IC352	VOLT.
1	12.2V
2	0V
3	8.0V

Q101	VOLT.
B	1.2V
C	5.9V
E	0.5V

Q131	VOLT.
B	3.2V
C	0V
E	3.9V

Q132	VOLT.
B	3.6V
C	9.0V
E	3.0V

Q133	VOLT.
B	9.0V
C	3.5V
E	9.4V

Q134	VOLT.
B	3.7V
C	0V
E	4.7V

Q152	VOLT.
B	3.8V
C	8.0V
E	3.2V

Q202	VOLT.
B	0.7
C	0V
E	0V

Q311	VOLT.
B	4.9V
C	-0.7V
E	15.2V

Q351	VOLT.
B	23.1V
C	23.7V
E	23.8V

Q352	VOLT.
B	0.7V
C	0V
E	0V

Q353	VOLT.
B	6.8V
C	36.8V
E	6.2V

Q354	VOLT.
B	14.9V
C	15.5V
E	15.7V

Q371	VOLT.
B	0.6V
C	36.6V
E	1.0V

Q372	VOLT.
B	36.7V
C	0V
E	36.7V

Q381	VOLT.
B	12.6V
C	11.9V
E	11.9V

Q436	VOLT.
B	0V
C	6.4V
E	0V

Q437	VOLT.
B	0.5V
C	0V
E	0V

Q461	VOLT.
B	8.00V
C	0V
E	5.0V

Q462	VOLT.
B	0.6V
C	0V
E	0V

Q703	VOLT.
B	2.4V
C	11.9V
E	4.7V

Q708	VOLT.
B	4.4V
C	5.0V
E	5.0V

Q711	VOLT.
B	0.6V
C	5.3V
E	0V

Q722	VOLT.
B	0V
C	5.0V
E	0V

Q851	VOLT.
B	0V
C	0V
E	0V

Q852	VOLT.
B	0V
C	0V
E	0.6V

Q857	VOLT.
B	3.0V
C	4.2V
E	2.3V

Q858	VOLT.
B	4.3V
C	0V
E	5.0V

Q881	VOLT.
B	4.4V
C	11.8V
E	3.7V

Q1001	VOLT.
B	0V
C	4.7V
E	0V

Q1002	VOLT.
B	0V
C	4.7V
E	0V

Q1003	VOLT.
B	0V
C	4.7V
E	0V

Q1005	VOLT.
B	4.4V
C	11.9V
E	3.7V

Q1006	VOLT.
B	2.9V
C	11.8V
E	2.2V

Q1007	VOLT.
B	0.6V
C	0.6V
E	0V

Q1008	VOLT.
B	0.6V
C	0.6V
E	0V

The service Precaution:
The area enclosed by this line ( ) is directly connected with AC mains voltage. When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

SANYO

COLOUR TELEVISION

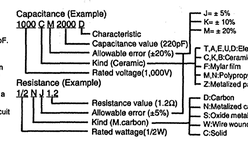
EC3-A CHASSIS SERIES

SERVICE **C25EG90B-00**
REF.NO. **C25EG90B-02**

Part No. SKP20045 E8AA/AAM

Product safety notice:
Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a mark ⚠ in this circuit diagram show components whose values have special significance to product safety. It is particularly recommended that only parts specified on the part service manual be used for components replacement pointed out by the mark.

Circuit diagram notes :
1. All resistance values are in ohms, K=1,000, M=1,000,000.
2. All resistance rated wattages are 1/6W unless otherwise noted.
3. Excepting electrolytic capacitors, all capacitance values of less than 1 are expressed in µF and more than 1 are pF.
4. All capacitance rated voltages are 50V unless otherwise noted.
5. All inductance values are in µH.
6. Voltage readings taken with taken with a "VTVM" are from point indicated chassis ground. Voltage readings taken by using a colour bar signal are with all controls at normal and AFC switch in "OFF" position.Some voltages may vary with signal strength.
7. Waveforms were taken with colour bar and controls adjusted for normal picture. Waveforms were taken by using a wide band oscilloscope and a low capacity probe.
8. This circuit diagram covers a basic or representative chassis only. There may be some components or partial circuit differences between the actual chassis and the circuit diagram.
9. Expression of capacitance and resistance in circuit diagram.



10. ■ Diode 1S1555 may be replaced with 1S2473, 1S2076 or DS472 unless otherwise noted.
■ Transistor 2SC536(E,F,G),may be replaced with 2SC1740S(Q,R,S), 2SC1740(Q,R,S), 2SC945A(Q,R,P) or 2SC1815(G,O,Y) unless otherwise noted.
■ Transistor 2SA608(E,F) may be replaced with 2SA933(Q,R), 2SA564(QA,RA), or 2SA1015(O,Y) unless otherwise noted.

Transistor, Diode & Integrated Circuit terminal guide

C : Collector
B : Base
E : Emitter

A : Anoda
K : Kalhode

Particular parts symbol

Fusible resistor

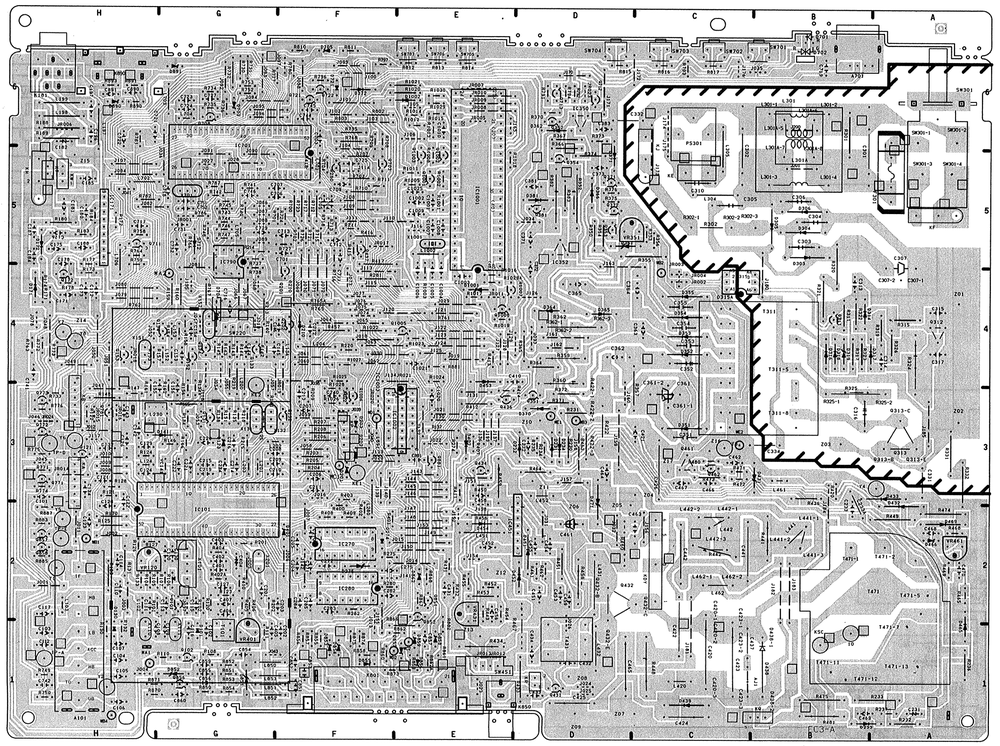
Non-pole electrolytic capacitor

Posistor

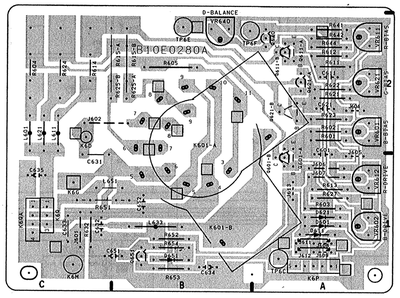
Difference points

	C25EG90B-00	C25EG90B-02
Q901	A59ECY13X38 (Videocolour)	A59ECF20X05 (Panasonic)
C420	1500MJ6000 (XD:XE)	1500MJ6200 (XD:XE)
C441	200NJ0.2	200NJ0.18
L442	AA0006	N/A
R442	N/A	J1
R452	3.9K	6.8K
R454	120	270
R455	2.2K	2.7K
R460	1/2DJ560	1/2DJ330
R463	1.8K	1.5K
R481	2SJ1.5C	2SJ3.9C

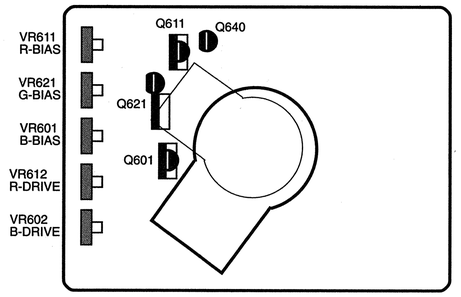
MAIN BOARD (CIRCUIT SIDE)



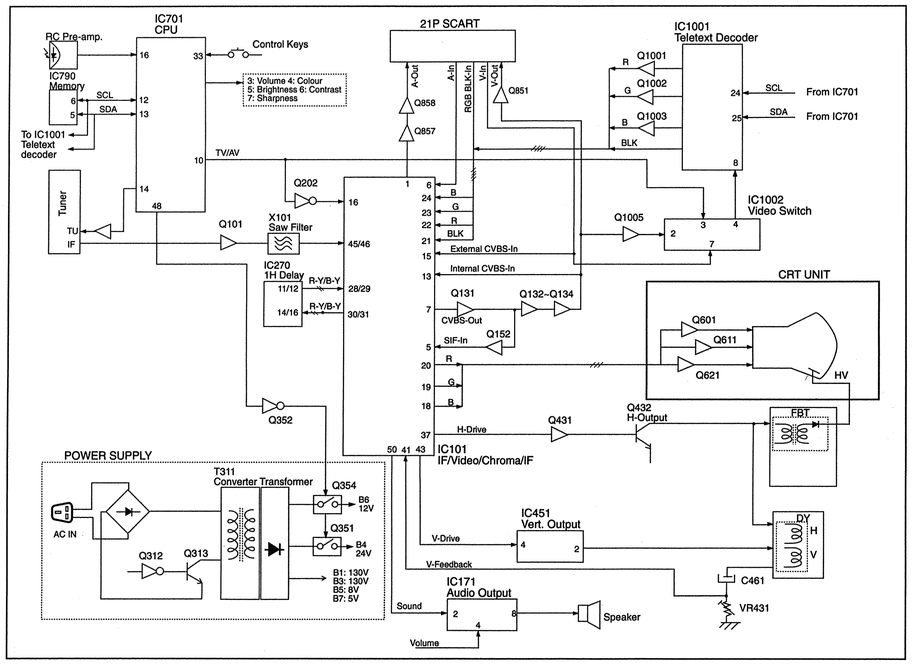
CRT BOARD (CIRCUIT SIDE)



CRT BOARD (COMPONENT LOCATION)



BLOCK DIAGRAM



MAIN BOARD (COMPONENT LOCATION)